Logiweb codex of rapport

Up Help

rapport, , LEMMA3.2(a), LEMMA3.2(b), LEMMA3.2(c), LEMMA3.2(d), LEMMA3.2(f), LEMMA3.2(f)base, LEMMA3.2(f)induction, LEMMA3.2(g), LEMMA3.2(g)base, LEMMA3.2(g)induction, LEMMA3.2(h), LEMMA3.2(h)base, LEMMA3.2(h)induction, IMV, CImp, TImp,

rapport

[rapport $\overset{\text{pyk}}{\to}$ “rapport”]

[$\overset{\text{tex}}{\to}$ “”]

[$\overset{\text{pyk}}{\to}$ “blank space”]

LEMMA3.2(a)

[LEMMA3.2(a) $\overset{\text{proof}}{\to}$ $\lambda\mathsf{c}.\lambda\mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash \forall \underline{\mathrm{t}}\colon [\ [\ \mathrm{S5}' \gg [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ ]\ ;\ [\ [\ \mathrm{S1}' \gg [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ [\ \mathrm{MP}' \rhd [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ \rhd [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ ]\ \gg [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ;\ [\ [\ [\ \mathrm{MP}' \rhd [\ [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ \rhd [\ [\ \underline{\mathrm{t}} \dot{+} \dot{0}\ ]\ \overset{\mathrm{p}}{=}\ \underline{\mathrm{t}}\ ]\ ]\ \gg [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ ]\rfloor, \mathrm{p}_0, \mathsf{c})$]

[LEMMA3.2(a) $\overset{\text{stmt}}{\to}$ $\mathrm{S}' \vdash \forall \underline{\mathrm{t}}\colon [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]$]

[LEMMA3.2(a) $\overset{\text{tex}}{\to}$ “LEMMA 3.2(a)”]

[LEMMA3.2(a) $\overset{\text{pyk}}{\to}$ “mendelson lemma three two a”]

LEMMA3.2(b)

[LEMMA3.2(b) $\overset{\text{proof}}{\to}$ $\lambda\mathsf{c}.\lambda\mathsf{x}.\mathcal{P}(\lceil \mathrm{S}' \vdash \forall \underline{\mathrm{t}}\colon \forall \underline{\mathrm{r}}\colon [\ [\ \mathrm{S1}' \gg [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{r}}\ ]\ \dot{\Rightarrow}\ [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{r}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ ;\ [\ [\ [\ \mathrm{CImp} \rhd [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{r}}\ ]\ \dot{\Rightarrow}\ [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{r}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ \gg [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ \dot{\Rightarrow}\ [\ [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{r}}\ ]\ \dot{\Rightarrow}\ [\ \underline{\mathrm{r}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]\ ]\ ]\ ]\ ;\ [\ [\ \mathrm{LEMMA3.2(a)} \gg [\ \underline{\mathrm{t}} \overset{\mathrm{p}}{=} \underline{\mathrm{t}}\ ]$

] ; [[[MP′ ▷ [[$\underline{t} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [$\underline{r} \overset{p}{=} \underline{t}$]]]] ▷ [$\underline{t} \overset{p}{=} \underline{t}$]] ≫ [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [$\underline{r} \overset{p}{=} \underline{t}$]]]]]], p_0, c)]

[LEMMA3.2(b) $\overset{stmt}{\rightarrow}$ S′ ⊢ ∀$\underline{t}$: ∀$\underline{r}$: [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [$\underline{r} \overset{p}{=} \underline{t}$]]]

[LEMMA3.2(b) $\overset{tex}{\rightarrow}$ “LEMMA 3.2(b)”]

[LEMMA3.2(b) $\overset{pyk}{\rightarrow}$ “mendelson lemma three two b”]

LEMMA3.2(c)

[LEMMA3.2(c) $\overset{proof}{\rightarrow}$ λc.λx.$\mathcal{P}$(⌈S′ ⊢ ∀$\underline{t}$: ∀$\underline{r}$: ∀$\underline{s}$: [[S1′ ≫ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{s}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]]] ; [[LEMMA3.2(b) ≫ [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [$\underline{r} \overset{p}{=} \underline{t}$]]] ; [[[TImp ▷ [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [$\underline{r} \overset{p}{=} \underline{t}$]]] ▷ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{s}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]]] ≫ [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{s}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]]]]], p_0, c)]

[LEMMA3.2(c) $\overset{stmt}{\rightarrow}$ S′ ⊢ ∀$\underline{t}$: ∀$\underline{r}$: ∀$\underline{s}$: [[$\underline{t} \overset{p}{=} \underline{r}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{s}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]]]

[LEMMA3.2(c) $\overset{tex}{\rightarrow}$ “LEMMA 3.2(c)”]

[LEMMA3.2(c) $\overset{pyk}{\rightarrow}$ “mendelson lemma three two c”]

LEMMA3.2(d)

[LEMMA3.2(d) $\overset{proof}{\rightarrow}$ λc.λx.$\mathcal{P}$(⌈S′ ⊢ ∀$\underline{t}$: ∀$\underline{r}$: ∀$\underline{s}$: [[LEMMA3.2(c) ≫ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{t} \overset{p}{=} \underline{s}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ; [[[CImp ▷ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{t} \overset{p}{=} \underline{s}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ≫ [[$\underline{t} \overset{p}{=} \underline{s}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ; [[LEMMA3.2(b) ≫ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]] ; [[[[TImp ▷ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [$\underline{t} \overset{p}{=} \underline{s}$]]] ▷ [[$\underline{t} \overset{p}{=} \underline{s}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ≫ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ; [[CImp ▷ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]] ≫ [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]]]]]], p_0, c)]

[LEMMA3.2(d) $\overset{stmt}{\rightarrow}$ S′ ⊢ ∀$\underline{t}$: ∀$\underline{r}$: ∀$\underline{s}$: [[$\underline{r} \overset{p}{=} \underline{t}$] ⇒ [[$\underline{s} \overset{p}{=} \underline{t}$] ⇒ [$\underline{r} \overset{p}{=} \underline{s}$]]]]

[LEMMA3.2(d) $\overset{tex}{\rightarrow}$ “LEMMA 3.2(d)”]

[LEMMA3.2(d) $\overset{pyk}{\rightarrow}$ “mendelson lemma three two d”]

LEMMA3.2(f)

[LEMMA3.2(f) $\overset{proof}{\rightarrow}$ λc.λx.$\mathcal{P}$(⌈S′ ⊢ [[S9′ ≫ [[$\dot{0} \overset{p}{=} [\dot{0} \dot{+} \dot{0}]$] ⇒ [[∀$\dot{t}$: [[$\dot{t} \overset{p}{=} [\dot{0} \dot{+} [\dot{t}]]$] ⇒ [$\dot{t}' \overset{p}{=} [\dot{0} \dot{+} [\dot{t}']]$]]]] ⇒ ∀$\dot{t}$: [$\dot{t} \overset{p}{=} [\dot{0} \dot{+} [\dot{t}]]$]]]] ; [[LEMMA3.2(f)base ≫ [$\dot{0} \overset{p}{=} [\dot{0} \dot{+} \dot{0}]$]] ; [[[[MP′ ▷ [[$\dot{0} \overset{p}{=} [$

$\dot{0}\dot{+}\dot{0}]] \dot{\Rightarrow} [[\dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] \rhd [\dot{0} \stackrel{p}{=} [\dot{0}\dot{+}\dot{0}]]] \gg [[\dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] ; [[$ LEMMA3.2(f)induction $\gg [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] ; [[[$ Gen′ $\rhd [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] \gg \dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] ; [[[[$ MP′ $\rhd [[\dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] \rhd \dot{\forall}\dot{t}\colon [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]] \gg \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]] ; [[[$ A4′ @ $[\dot{t}]] \gg [[\dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] \dot{\Rightarrow} [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] ; [[[$ MP′ $\rhd [[\dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]] \dot{\Rightarrow} [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]] \rhd \dot{\forall}\dot{t}\colon [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]] \gg [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]]]]]]]] \rceil, p_0, c)]$

[LEMMA3.2(f) $\stackrel{\text{stmt}}{\rightarrow}$ S′ $\vdash [\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]]]$

[LEMMA3.2(f) $\stackrel{\text{tex}}{\rightarrow}$ “LEMMA 3.2(f)”]

[LEMMA3.2(f) $\stackrel{\text{pyk}}{\rightarrow}$ “mendelson lemma three two f”]

LEMMA3.2(f)base

[LEMMA3.2(f)base $\stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash [[$ S5′ $\gg [[\dot{0}\dot{+}\dot{0}] \stackrel{p}{=} \dot{0}]] ; [[$ LEMMA3.2(b) $\gg [[[\dot{0}\dot{+}\dot{0}] \stackrel{p}{=} \dot{0}] \dot{\Rightarrow} [\dot{0} \stackrel{p}{=} [\dot{0}\dot{+}\dot{0}]]]] ; [[[$ MP′ $\rhd [[[\dot{0}\dot{+}\dot{0}] \stackrel{p}{=} \dot{0}] \dot{\Rightarrow} [\dot{0} \stackrel{p}{=} [\dot{0}\dot{+}\dot{0}]]]] \rhd [[\dot{0}\dot{+}\dot{0}] \stackrel{p}{=} \dot{0}]] \gg [\dot{0} \stackrel{p}{=} [\dot{0}\dot{+}\dot{0}]]]]] \rceil, p_0, c)]$

[LEMMA3.2(f)base $\stackrel{\text{stmt}}{\rightarrow}$ S′ $\vdash [\dot{0} \stackrel{p}{=} [\dot{0}\dot{+}\dot{0}]]]$

[LEMMA3.2(f)base $\stackrel{\text{tex}}{\rightarrow}$ “LEMMA 3.2(f) base”]

[LEMMA3.2(f)base $\stackrel{\text{pyk}}{\rightarrow}$ “mendelson lemma three two f base”]

LEMMA3.2(f)induction

[LEMMA3.2(f)induction $\stackrel{\text{proof}}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash [[$ S6′ $\gg [[\dot{0}\dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']]] ; [[$ S2′ $\gg [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']]]] ; [[$ LEMMA3.2(d) $\gg [[\dot{t}' \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[[\dot{0}\dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]]]] ; [[[[$ TImp $\rhd [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']]]] \rhd [[\dot{t}' \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[[\dot{0}\dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]]] \gg [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [[[\dot{0}\dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0}\dot{+} [\dot{t}]]']] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}']]]]]]] ; [[[$ CImp $\rhd [[\dot{t} \stackrel{p}{=} [\dot{0}\dot{+} [\dot{t}]]] \dot{\Rightarrow} [[[\dot{0}\dot{+}$

$[\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]] \gg [[[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]] ; [[[\mathrm{MP}' \triangleright [[[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]]] \triangleright [[\dot{0} \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{0} \dot{+} [\dot{t}]]']]] \gg [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]]]]]]] \rceil, p_0, c)]$

$[\mathrm{LEMMA3.2(f)induction} \stackrel{stmt}{\rightarrow} S' \vdash [[\dot{t} \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}]]] \dot{\Rightarrow} [\dot{t}' \stackrel{p}{=} [\dot{0} \dot{+} [\dot{t}']]]]]$

$[\mathrm{LEMMA3.2(f)induction} \stackrel{tex}{\rightarrow}$ "LEMMA 3.2(f) induction"]

$[\mathrm{LEMMA3.2(f)induction} \stackrel{pyk}{\rightarrow}$ "mendelson lemma three two f induction"]

LEMMA3.2(g)

$[\mathrm{LEMMA3.2(g)} \stackrel{proof}{\rightarrow} \lambda c.\lambda x.\mathcal{P}(\lceil S' \vdash [[S9' \gg [[[\dot{r}' \dot{+} \dot{0}] \stackrel{p}{=} [[\dot{r} \dot{+} \dot{0}]']] \dot{\Rightarrow} [[\dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]]] ; [[\mathrm{LEMMA3.2(g)base} \gg [[\dot{r}' \dot{+} \dot{0}] \stackrel{p}{=} [[\dot{r} \dot{+} \dot{0}]']]] ; [[[[\mathrm{MP}' \triangleright [[[\dot{r}' \dot{+} \dot{0}] \stackrel{p}{=} [[\dot{r} \dot{+} \dot{0}]']] \dot{\Rightarrow} [[\dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]]] \triangleright [[\dot{r}' \dot{+} \dot{0}] \stackrel{p}{=} [[\dot{r} \dot{+} \dot{0}]']]] \gg [[\dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]] ; [[\mathrm{LEMMA3.2(g)induction} \gg [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] ; [[[\mathrm{Gen}' \triangleright [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \gg \dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] ; [[[[\mathrm{MP}' \triangleright [[\dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \dot{\Rightarrow} \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]] \triangleright \dot{\forall}\dot{t}\!: [[[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}']] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}']]']]]] \gg \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]] ; [[[A4' @ [\dot{t}]] \gg [[\dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]']]] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]] ; [[[\mathrm{MP}' \triangleright [[\dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]] \dot{\Rightarrow} [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]] \triangleright \dot{\forall}\dot{t}\!: [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]] \gg [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]]]]]]]]] \rceil, p_0, c)]$

$[\mathrm{LEMMA3.2(g)} \stackrel{stmt}{\rightarrow} S' \vdash [[\dot{r}' \dot{+} [\dot{t}]] \stackrel{p}{=} [[\dot{r} \dot{+} [\dot{t}]]']]]$

$[\mathrm{LEMMA3.2(g)} \stackrel{tex}{\rightarrow}$ "LEMMA 3.2(g)"]

$[\mathrm{LEMMA3.2(g)} \stackrel{pyk}{\rightarrow}$ "mendelson lemma three two g"]